URBAN GREENWAY RETROFIT:

a design for alternative transportation, community, and the environment

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BENEFITS OF GREENSPACES AND GREENWAYS

- Health Benefits of Physical Activity and Nature
  - Reduces risk of many health problems
  - Improves wellness
  - Improves quality of life
- Ecological Benefits
  - Environmental benefits
  - Protection of natural resources
- Social Benefits
  - Unites communities
  - Strengthens social bonds
  - Encourages stewardship
- Economic Benefits
  - Increases tourism
  - Can influence where people spend time/money
  - Increase in property value

HOW CAN A GREENWAY STRENGTHEN AND CONNECT GREENSPACES AND NEIGHBORHOODS IN EXISTING URBAN FABRIC?

URBAN GREENWAY: Linear, vegetated spaces used for recreation and alternate transportation that also provides multiple ecological benefits within a city.

"Increased use of bike and pedestrian facilities would save infrastructure costs considerably. It takes about **$1 million** per lane per mile to build an urban arterial roadway and about **$135,000** per mile for a multi use path"
- FM Metropolitan Bicycle and Pedestrian Plan 2005

COMMUTING IN THE FARGO METRO AREA

	2000 Census				1990 Census			
	Population	% Bike Commuters	% Ped. Commuters	% Total	% Bike Population	% Ped. Commuters	Commuters	% Total
FM Metro	174,367	0.26%	2.58%	2.84%	153,296	0.24%	3.75%	3.99%
Fargo	90,787	0.61%	4.48%	5.56%	74,115	0.67%	8.38%	8.38%
Moorhead	32,161	0.62%	10.05%	11.67%	32,295	0.50%	16.71%	16.71%
West Fargo	14,632	0.17%	1.07%	1.24%	12,287	0.08%	2.41%	2.41%
Dilworth	3,007	0%	3.71%	3.71%	2,562	0%	2.79%	2.79%

http://www.bikesatwork.com/carfree/census-form.shtmlandCensus.gov

Existing Fargo Metro Commute to Work in Minutes

< 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-59	60-89	>90	Home
5%	18%	27%	24%	10%	3%	4%	1%	1%	2%	2%		3%

Source: Census Bureau

Context

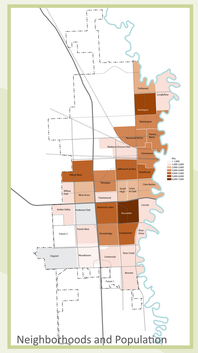
Inventory and Analysis Maps

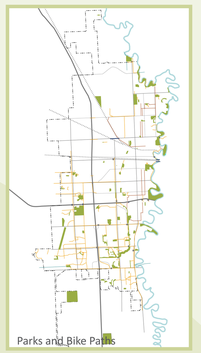
The neighborhoods in Fargo are bounded by arterial roads, creating a disconnect between them. The population of neighborhoods shows the central downtown core has a higher population, and as the city expands, the population of neighborhoods decrease.

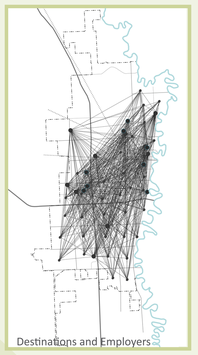
Parks, not including golf courses, total approximately 1,300 acres; about 5.25% of Fargo's land area. Currently, many of the bike paths are wide sidewalks next to roadways and shared roadways with vehicles.

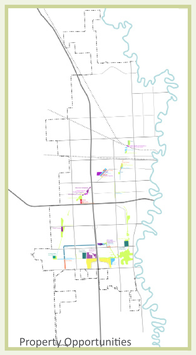
The web map illustrates where people live and connects them to major employers and major destinations. The darker areas suggest the bike paths are not adequate to where people are traveling.

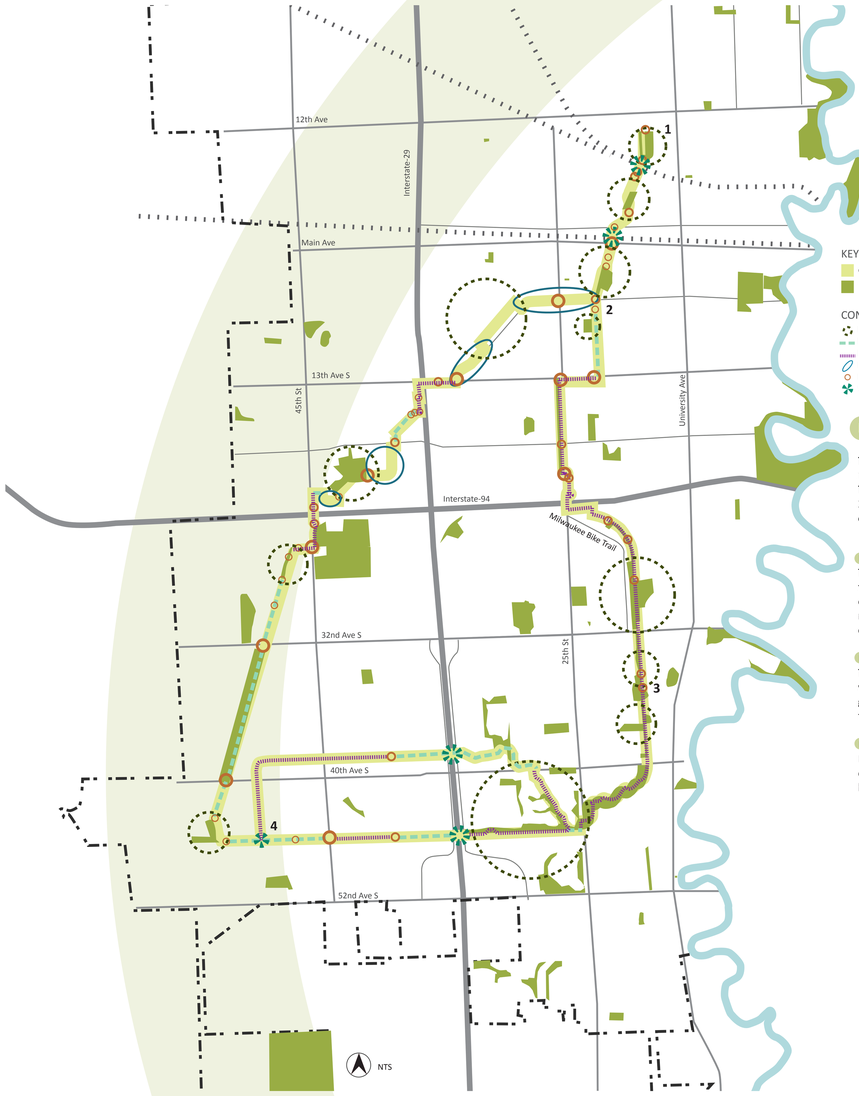
As the city expands, bike paths and greenways are planned in the developmental process; however, the central core of the city lacks the planning and can lack the available (or "suitable") land. Alternative under-utilized or undeveloped land, such as land owned by the city, county or park district, developers, private property or utility easements can be used to develop areas for greenways and parks.


Neighborhoods and Population


Parks and Bike Paths


Destinations and Employers


Property Opportunities



KEY
- Greenway Trail
- Park

CONDITIONS
- Existing or Proposed Park
- Narrow Corridor
- Existing Bike Path
- Biking on Roadway
- Road Crossing
- Special Condition

MASTER PLAN

The master plan is a continuous bike trail over 21 miles long, with a 15 mile loop. There is a 9 mile stretch of minimally interrupted path. The plan increases park space by a minimum of 10% and connects 20 existing parks. The plans are collectively address each design condition along the greenway.

Designing for Alternative Transportation
The plan spans much of the city, providing routes from home to destinations. Arterial road crossing will have an underpass; collector road crossings have speed tables with narrowed roadway, pavement change, and indicator tree sets. Railroad crossings of above or below dependent on grade.

Designing for Community
The master plan links communities by connecting destinations, while providing safe connections throughout the city. These gathering spaces will encourage social interaction and increase feelings of ownership and pride, as well as increase recreation.

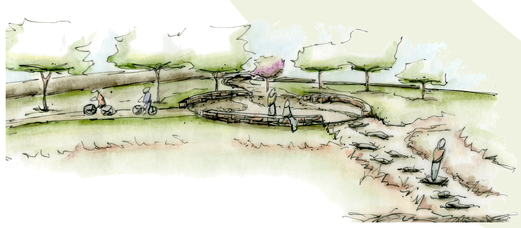
Designing for the Environment
By having multi-functioning spaces, people can interact with the environment and learn natural processes. Spaces provide natural habitat and area for infiltration of water runoff.

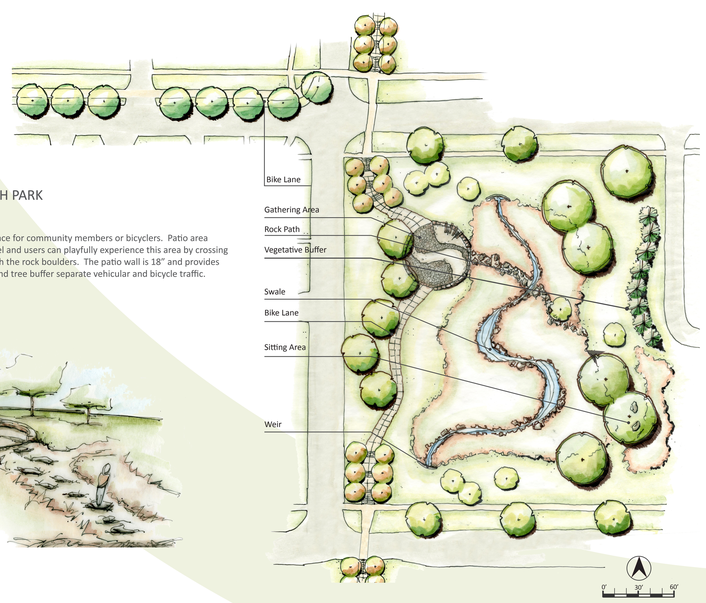
1. JOHNSON PARK: NDSU Campus

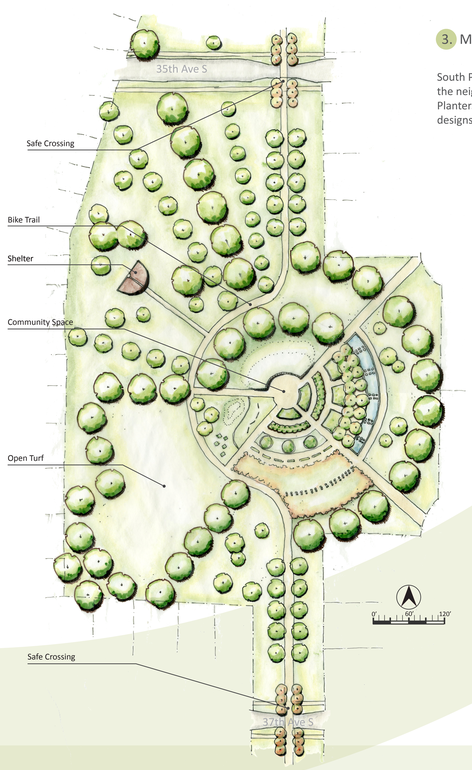
Johnson Park is located directly south of the NDSU campus, at the very north end of the Greenway Bike Trail. The existing condition of the site consisted of soccer fields and a straight channel for stormwater storage. This under-utilized space is transformed into an area that provides a space for students and community members to gather. The new channel meanders and allows for stormwater infiltration. Because of space constraints and minimal grade change, the railroad will have safety arms.

2. JEFFERSON SOUTH PARK

This site provides a passive space for community members or bicyclers. Patio area slopes to drain into the channel and users can playfully experience this area by crossing on the stepping stones to reach the rock boulders. The patio wall is 18" and provides seating. A 6' vegetated curb and tree buffer separate vehicular and bicycle traffic.







3. MILWAUKEE TRAIL PLAN

South Point Park is located along the Milwaukee Bike Trail. The park provides a community gathering space for the neighborhood. The natural playground provides an alternative to manufactured playground equipment. Planters provide opportunities for neighborhood groups or organizations as a community project. Subtle designs in pavement and planters resemble the "rails to trails" bike path that exists now.